

Service Date: February 19 1986

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

IN THE MATTER Of The Application)
Of The CITY OF BOZEMAN To Increase) UTILITY DIVISION
Water Rates And To Modify Rules And) DOCKET NO. 85.6.23
Regulations.) ORDER NO. 5184

APPEARANCES

FOR THE APPLICANT:

William E. O'Leary. Suite 4G Arcade Building, Helena, Montana
59601.

FOR THE INTERVENORS:

John Allen, Staff Attorney, Montana Consumer Counsel, 34 West
6th Avenue, Helena, Montana 59620.

FOR THE COMMISSION:

Robin McHugh, Staff Attorney, 2701 Prospect Avenue, Helena,
Montana 59620.

BEFORE:

JOHN DRISCOLL, Commissioner and Hearing Examiner

BACKGROUND

1. On June 5, 1985, the City of Bozeman (Applicant or
City) filed an application with this Commission for
authority to increase rates and charges for water service
to its customers in the Bozeman, Montana area. The
Applicant requested an average increase of approximately 61
percent which constitutes an increase of approximately
\$632 235 in annual revenues.

2. Or. January 7, 1986, pursuant to notice of public hearing,
a hearing was held in the Library Community Room, 220 East
Lamme, Bozeman, Montana. For the convenience of the consuming

public an evening meeting was held in the County Courthouse, Community Room, commencing at 7:00 p.m. on January 7, 1986. The purpose of the public hearing was to consider the merits of the Applicant's proposed water rate adjustments. At the close of the public hearing, all parties waived their rights to a proposed order and stipulated to authorize the Commission to issue a Final Order in this Docket.

ANALYSIS AND FINDINGS OF FACT

3. At the public hearing the Applicant presented the testimony and exhibits of the following witnesses:

James Wysocki, City Manager
Ken Vail, City Controller
Richard Holmes, Director of Public Service
Ken Rust, Economic Consultant
Phillip Butterfield, Consulting Engineer

These witnesses testified relative to: the need for proposed capital improvements, the estimated cost of the proposed capital improvements, the financing of proposed capital improvements, the increases in operation and maintenance expenses, debt service obligations and rate structure.

4. The Montana Consumer Counsel presented the testimony of four public witnesses during the course of this proceeding. Three of these witnesses appeared as individuals and presented their own personal concerns, while the fourth, Craig Roloff, appeared on behalf of Montana State University.

The main concerns expressed by the three consumers presenting their own personal views were the magnitude of the proposed rate increase, the impact the proposed rate structure would

have on consumers and consumption patterns, and the fact that the Lyman Creek source of supply does not have protection from a possible giardia infestation.

Appearing on behalf of Montana State University (MSU) Mr. Roloff expressed the concern that the water utility rate study, allocated too much of the system's "distribution operation and maintenance costs" to the University. It was Mr. Roloff's contention that the allocation factor, utilized by the City, did not reflect the savings provided to the City by MSU's ownership and maintenance of the distribution system on campus.

CAPITAL IMPROVEMENT PROGRAM

5. The City in its application has set forth a proposed capital improvement program for the water utility. The total estimated cost of the capital improvement as outlined by the City is \$1,113,100. The following Table 1 sets out the proposed capital improvements to the water system and their estimated cost.

TABLE 1

1. Lyman Creek Pipeline)	\$531,900
2. Lyman Creek Spring House)	72,600
3. 24 Inch Transmission Line 3rd to 11 th)	202,800
4. Meter Installations)	30,500
5. Pretreatment Storage)	224,700
6. Increase Pipe Size)	<u>50,600</u>
TOTAL		\$1,113,100

6. The City proposes that construction of the capital improvements outlined in Table 1, be financed with the funds generated by the 125% debt service coverage ratio and the remaining revenue bond proceeds from the 1982 Revenue Bond Issue. The funds generated by the 125% coverage ratio are

unencumbered funds of the water utility, and can be used to pay for capital improvements to the water system (further discussion of the debt service coverage ratio appears later in this order).

7. Items 1 and 2 of the proposed capital improvement program are the construction of a pipeline and spring house on the City's Lyman Creek source of supply. The City proposes to extend its currently existing pipeline on the Lyman Creek drainage approximately 4,000 feet, connecting the currently existing diversion structure with the source of the spring. It also proposes to construct a spring house to fully enclose the spring source.

The City's witnesses testified that construction of these improvements on the Lyman Creek source of supply would provide for protection against giardia contamination of this water source.

8. Item 3 of the proposed capital improvement program is the construction of a 24 inch main from 3rd to 11th. The City indicated that construction of this main is necessary to insure an adequate available supply of water in the area served. The City also indicated that construction of this line is necessary if it is to complete its long range goal of providing adequate pressure to operate the fire sprinkling systems in the high rise dormitories, located on the Montana State University campus.

9. Item 4 of the proposed capital improvement program is the completion of the metering of all services connected to the City water system. The City indicated the completion of this metering program will insure that all consumers are contributing their fair share to the operation of the water

utility and will also promote conservation.

10. Construction of a pretreatment storage facility at the water treatment plant is item 5 of the proposed capital improvement program. The City's witnesses testified that construction of this storage facility would reduce the amount of water that is lost and unaccounted for on its transmission system.

The City currently experiences an approximate 50% lost and unaccounted for factor on its transmission system, this means that 50% of the water that is being diverted to the City water system is not reaching the distribution system that delivers water to the customers. The City indicated that this loss factor is attributable to the water management principles that it has to apply to delivering water to the water treatment plant and that construction of this storage facility would allow it to store the water that is currently being overflowed and diverted down stream and thus lost for delivery to the water system.

11. Item 6 of the capital improvement program is increase pipe size and relates to the replacement of mains that are undersized given the current flow requirements in the area being served.

12. The Commission fully supports the adequate funding of capital improvement programs when that funding is tied to a schedule of contemplated system improvements. The Commission finds that funding of this type of account is both prudent management and regulation, in that it allows for proper maintenance; therefore, the Commission finds the City's proposed improvement program and funding method to be reasonable.

OPERATION AND MAINTENANCE EXPENSES

13. In its Application the City has projected operation and maintenance expenses for fiscal Year 1986, totaling \$961,300. The projected expenses for fiscal year 1986 represent a significant increase over prior period historical levels. This increase in the expense level is mainly attributable to the City placing into operation a 10 million gallon per day water treatment plant, which it had been required to construct and operate.

14. The projected operation and maintenance expenses were not challenged by any party participating in this proceeding and therefore are accepted by the Commission.

DEBT SERVICE

15. The City has a current outstanding revenue bond with an annual principal and interest payment of approximately \$571, 895. The proceeds from the outstanding bond issue (Series 1982) were used to make capital improvements to the City's water utility and repayment of the bond is the sole obligation and responsibility of the water utility. Therefore, the principal and interest payments on the bond are properly chargeable to the water utility operation.

16. In the sale of municipal bonds, the purchasers of the bonds must be assured that their investment is secure. To provide this security, the municipality makes a promise, called a covenant, to do certain things that will ensure that it will always be able to make the bond's principal and interest payments as they come due. In the Series 1982 bonds,

the City has agreed to covenants that require it to establish a revenue bond reserve in an amount equal to the maximum principal and interest payment to come due in any future year and provide a debt service coverage ratio of 125%.

One of the concerns expressed by the City, in its filing, was its failure to meet its bond indenture requirement to have a 125% coverage ratio. The City is requesting that the Commission authorize rates which will allow it to generate revenues sufficient to meet coverage ratio requirements of the bond indenture.

17. To meet the 125% coverage ratio requirement, the City must have net operating revenues of at least \$147,133. To determine net operating income, operation and maintenance expense, as well as debt service, are subtracted from the total revenues of the water utility. The required net operating income is calculated by multiplying the maximum principal and interest payment due on the outstanding bonds by 25 percent ($\$588,535 \times .25 = \$147,133$) .

The provision of a debt service coverage ratio is a standard requirement in a municipal revenue bond indenture. The first reason why purchasers place this requirement in an indenture is to assure that the rates implemented by a municipal utility will produce revenues that exceed the cost of providing service (operation and maintenance expense plus debt service), thereby assuring the bond purchaser that bond payments will always be made. The second reason is that generation of net revenues, which are unencumbered, provides a municipal utility with a source of funds that can be used for replacement of minor capital items. This funding source for replacement of minor capital items is the bond purchasers' attempt to insure adequate maintenance of utility

facilities, which results in additional security for the investment, because adequate maintenance translates to continued utility operation.

18. The Commission finds the bond covenant provision of a 125% coverage ratio to be among the standard requirements for the issuance of revenue bonds. It further finds that it is the City's intention to use the funds generated by the coverage ratio to make needed capital improvements to the water system (See Finding of Fact No. 6) which is one of the reasons for including this covenant in the revenue bond indenture.

Based on the above, the Commission finds that the Applicant should be authorized rates which are sufficient for it to generate net operating revenues in the amount of \$147,133, which is the amount required to meet the 125% coverage requirement of the bond indenture.

19. Based on Findings of Fact Nos. 14, 15 and 18, the Commission finds the following test year operating revenue deductions to be reasonable:

Operating Expenses	\$961,300
Debt Service	571,895
Debt Coverage	<u>147,133</u>
TOTAL	\$1,680,328

REVENUE NEED

20. The City indicated that, under present rates effective January, 1983, user charges would generate approximately \$1,030,910 in annual revenues. The test period user charge revenues are not a contested issue in this case and are, therefore, accepted by the Commission.

21. The City's water department has sources of revenue other

than user charges, which include:

Connection Charges	\$45,000
Miscellaneous	<u>1,500</u>
TOTAL OTHER INCOME	\$46,500

The "Other Income" as presented by the Applicant appears to fairly reflect revenues that can be anticipated from these sources, and is accepted by the Commission.

22. The Commission, based upon Findings of Fact Nos. 20 and 21, finds the total test period operating revenues are \$1,077,410.

23. The Commission, based upon Findings of Fact contained herein, finds that the Applicant should be allowed to increase annual revenues by \$602,918. This requirement is calculated as follows:

Operating Revenues	\$1,077,410
LESS:	
Operating Expenses	\$ 961,300
Debt Service	571,895
Coverage Ratio	<u>147,133</u>
Total Revenue Requirement	\$1,680,328
REVENUE DEFICIENCY	\$ 602,918

WATER VOLUMES FOR RATE DESIGN

24. The City used 1,603,314 hundred cubic feet (ccf) of annual water consumption for revenue projection purposes. This consumption figure was calculated using the water utility's average annual consumption per meter, by customer class, for the fiscal years 1982 and 1983 with adjustments to reflect customer growth and uses by unmetered consumers.

25. The Commission staff's examination of the Applicant's calculation of annual water consumption resulted in detection of a flaw in this calculation. The Applicant in determining average annual per meter consumption for fiscal years 1982 and 1983, used a year end meter count, and then applied this

calculated average to a mid-year meter count to determine projected water volumes.

This mixing of year end meter count and mid-year meter count results in an understatement of the Applicant's projected water volumes.

The Applicant is experiencing customer growth on its water system and use of the year end meter count, to determine the average per meter consumption, produces a lower average than would be calculated using the mid-year meter count. The mixing of year end meter count and mid-year meter count, in the Applicant's calculation of projected water volumes, introduces error into the calculation. The error in the calculation is the use of the year end meter count to determine the average per meter consumption. Since the Applicant has used a mid-year meter count to determine the projected annual water consumption, a mid-year meter count should be used to determine the average annual per meter consumption.

26. In response to a data request from the Commission staff the Applicant provided a revised calculation of its projected water volumes. The revised calculation was consistent through out and used mid-year meter counts to determine the average annual per meter consumption by customer class, as well as total projected water consumption for these customers. The revised calculation projects total annual water consumption for the water utility, in the amount of 1,650, 525 ccf and in the Commission' opinion more fairly reflects the water consumption that can be anticipated.

27. During the public hearing the Commission requested that

the Applicant file a number of late-filed exhibits. One of the late-filed exhibits related to the water utility's billing practices for City water use. In compiling the data to make a response to the request for a late-filed exhibit, the City determined that it had failed to include water consumption for irrigation of a 65 acre cemetery, which is billable to the City, in its water demand forecast. The water used to irrigate the cemetery should be included in the Applicant's projected total annual water consumption for the utility.

28. The City in its late-filed exhibit estimated that 75 percent of the cemetery acreage received irrigation water in quantities used at the City parks.

To determine the amount of water that is used at the cemetery for irrigation, it is necessary to make a calculation using the assumptions utilized by the City in its calculation of consumption for City park irrigation as a base. The City indicated that it irrigated 55.27 acres of park area using 35,079 ccf of water annually. The City's indication that 75 percent of the cemetery's 65 acres receives irrigation at quantities similar to the parks, means cemetery irrigation is equivalent to irrigating 48.75 acres of parks ($65 \text{ acres} \times .75 = 48.75 \text{ acres}$). Determination of the percentage relationship of irrigatable land area in the cemetery, to that of the area of the parks, multiplied by the annual irrigation demand for the cemetery in the amount of 30,940 ccf ($48.75 - 55.27 \times 35,079 = 30,940$)

29. The Commission finds, based upon Findings of Fact Nos. 26 and 28, that the Applicant's total projected annual water consumption should be 1,681,465 ccf. This consumption level should be used by the Applicant for purposes of

revenue projections and rate design.

RATE DESIGN

30. In its application, the City has proposed the implementation of a rate structure that includes a minimum monthly charge, with an allowance for 250 cubic feet of consumption in the minimum, and a commodity rate per ccf of consumption beyond the monthly minimum. The minimum monthly charge varies with meter size and the commodity rate is dependent upon the customer classification of the consumer. The City also proposes the continuation of an unmetered rate structure for those consumers connected to the system who are not metered. The City further proposes the elimination of the fire hydrant rental as a source of revenue for the water utility.

31. Consumers expressed concern regarding the magnitude of the proposed increase in water rates. The primary cause for the proposed increase in water rates are the requirements imposed on the water utility by the federal Safe Drinking Water Act. To comply with the requirements of the Act the City was required to construct and operate a water treatment facility. Construction of the water treatment facility was financed through the issuance of revenue bonds and operating the facility has resulted in a significant increase in operating costs. Both of these items have contributed to the City's filing a request for a significant increase in water rates.

32. The Applicant presented a traditional cost of service study utilizing the base-extra capacity method of cost allocation. In the base-extra capacity method, all costs are separated into components of base cost, extra capacity costs and customer costs.

This method allocates the costs of service (capital costs and operating costs) between the utility's base or average day and the extra capacity required to meet maximum day and peak hour system requirements. The base costs include those costs that tend to vary with the amount of water produced. The extra capacity costs include the additional costs incurred as a result of varying system load conditions and the need to meet water demands in excess of average day. The base costs are allocated to customer classifications in relation to the water consumed by each class. The extra capacity costs are allocated in relation to the excess capacity required by each class of customers for maximum day and peak hour demands.

33. Craig Roloff, appearing on behalf of Montana State University (MSU), stated that it was his belief that the cost allocation method used by the Applicant allocated too much of the water system's "distribution-operation and maintenance costs" to the University. Mr. Roloff was of the opinion that the City's cost formula should consider the savings provided to the water utility by MSU's ownership and maintenance of the distribution system on campus.

Mr. Roloff properly points out that there is a probable savings provided to the City by MSU's ownership of its distribution system. But the costs the City is attempting to recover, through rates, relate to costs incurred in the operation and maintenance of the system of distribution

mains, owned and maintained by the City and used to distribute water to all consumers connected to the water system. Therefore, no special rate consideration should be given to MSU base, solely upon the fact that it owns its distribution system thus providing a probable cost savings to the City.

34. One of the major concerns expressed during the hearing was the economic impact that implementation of the proposed increase in rates would have on consumers. The Commission shares this concern but for the reasons outlined in this order the Commission finds that the City of Bozeman must generate increased revenues from its water customers.

35. The Applicant presented a cost of service study and utilized the information contained in that study to develop its proposed rates. This study was examined during the course of this proceeding and, with the exception of cost information relating to the cost of fire protection, is the most reliable information available for Commission use in determining the City's proposed rate structure.

The rate design, or the distribution of the needed revenue amongst the various customer classes, must in the Commission's view be fair, assign the costs to customer classes based on the costs they impose on the system, give the consumer the proper price signal to encourage prudent use of a limited resource, and avoid or delay future rate increases that could result from unwarranted increases in consumption that would require construction of additional plant.

36. The Applicant in its proposed rate structure has

eliminated the monthly fire hydrant rental fee which is included in the current rate structure for the recovery of costs associated with fire protection. The City's rationale for elimination of this fee is its failure to maintain adequate records identifying the costs associated with fire protection; the City maintains that establishment of such a charge without such data would be arbitrary. require construction of additional

During the course of cross-examination the City's expert witnesses admitted that there are significant costs associated with the provision of fire protection and their proposal for recovery of these costs was to include them as a component of the commodity charge assessed water customers. This method of recovering costs associated with the provision of fire protection is, in the Commission's opinion, inappropriate. Recovery of the fire protection cost through the commodity charge is inequitable because water consumption has no correlation with fire flow requirements of the customer classifications.

Fire flow requirements in a residential section of the City's service area are generally lower than that required in a commercial area, therefore capital costs associated with the fire protection in the residential area should be less than in the commercial area. Since fire flow requirements are lower in a residential than a commercial area the peaking factor applicable to allocation of this cost will be lower for a residential area.

Generally speaking it is the residential consumer who utilizes the greater quantity of water on an annual basis therefore, it is clear that the residential customer would would be contributing a proportionately greater share toward

fire protection costs than the commercial, who imposes the greater fire flow requirements.

37. The Applicant has arbitrarily decided to eliminate the fire hydrant rental fee due to its failure to maintain adequate records. The Commission is of the opinion that this fee should not be eliminated and recovery of the fire flow costs should continue to be recovered through the fee. Since the Applicant has failed to maintain adequate records relative to the cost of fire protection the Commission must make an arbitrary assignment of costs associated with this activity. The City's witnesses indicated that fire protection represents a significant cost to the water utility, since the Commission is authorizing annual revenues of approximately 1.68 million dollars for rate utility operation, the Commission does not find it unreasonable to assign a cost responsibility of \$50,000 to the provision of fire protection.

38. The Commission finds that the City's rate design proposal, once the fire hydrant rental fee is included, is equitable and fairly recovers the cost of providing service to the various customers. With this qualification the rate design proposal is accepted by the Commission.

MISCELLANEOUS

39. City witnesses testified that the newly constructed water treatment facility was operated at maximum daily capacity on three occasions during fiscal year 1985. If the number of occasions the water treatment facility is operated at maximum daily capacity increases and the City becomes unable to meet the maximum day demand on its water system, the City will

have to examine the options that are available to either reduce this demand or construct additional treatment facilities to meet the demand. It is the Commissions opinion that examination of the available options to reduce maximum daily demand is preferable to construction of additional facilities and believes discussion of two available options is warranted.

40. The record developed in this Docket indicates that, historically, the City has not implemented water use restrictions on consumers connected to the system, during periods of high water demand i.e. during the summer irrigation months. The implementation of a rule allowing for irrigation by consumers on alternate days has been very successful in other communities and has resulted in a significant decrease in the maximum day demand placed on water utility facilities. Before the City makes the decision to construct additional facilities it should implement rules allowing for alternate day sprinkling and examine the effect this policy has on the maximum day demand for its water utility.

41. Another option available to the City that would have a significant impact on the demand placed on water facilities, is to consider altering its pricing policy. The price placed on the commodity has a dramatic impact on the consumption patterns of the consumers. If the City's water facilities continue to operate at maximum daily capacity after the implementation of alternate day sprinkling the City should consider the implementation of an inverted block rate structure or the imposition of a premium rate on water used for irrigation. Both of these rate policies should result in a lower demand by the consumer because of the consumers desire to minimize his monthly water bill.

42. This Commission in its Order No. 4824 (City of Bozeman, Docket No. 80.10.76) gave the City of Bozeman authorization to issue \$4,800,000 in revenue bonds, with the understanding that the bond reserve fund would be capitalized from the bond proceeds and the debt service coverage ratio would not be in excess of 125%. Despite this authority the City issued its Series 1982 Water Revenue Bonds in the amount of \$5,000,000 with the requirements that the City provide a 125% coverage ratio and fund \$300,000 of the bond reserve account from bond proceeds with the balance of this required reserve being accumulated over a three year period.

The Commission staff upon noting the discrepancy between the authorized provisions of the revenue bond issue and the actual provisions of the bond issue, researched the Commission files to determine if the Commission had authorized amendments to Order No. 4824 allowing the City to modify the requirements of the bond issue. In its examination of the Commission files the staff could locate no documents specifically allowing modification to the revenue bond.

43. During the public hearing the staff addressed questions to City witnesses in an effort to determine how modifications to the Commission's authorized revenue bond issue had been accomplished. None of the witnesses appearing on behalf of the City were able to provide a reasonable response to these questions. Therefore, the Commission requested the submission of a late-filed exhibit providing an explanation of how modifications to the authorized revenue bond requirements were accomplished.

44. The City's response to the request for the filing of a

late filed exhibit was in the form of a letter from its bond counsel. The bond counsel made the following statements regarding Commission jurisdiction in connection with a

municipal utility's issuance of revenue bonds:

"We have not been of the opinion that PSC approval was necessary for the issuance of revenue bonds for a municipal utility and consequently have approved bond issues in amounts different from amounts as originally proposed to the PSC.... Perhaps we have been in error in this regard. Of course, if a PSC order specifically provided that no more than a stated amount of bonds could be issued we would be reluctant to proceed with the issuance of a greater amount of bonds."

"It, seems clear that such approval is not required under Title 7, Chapter 7, Part 44, MCA. Perhaps it is less clear under Title 69, Chapter 7, Part 1, MCA."

Also contained in the bond counsel's letter were financial considerations that gave rise to the City's modifying the revenue bond issue.

45. It is clear from the bond counsel's letter that the modifications to the Commission's authorized revenue bond issue transpired because it is the counsel's legal opinion that a Commission Order authorizing the issuance of revenue bonds has no force and effect. The Commission disagrees with Counsel's opinion that the Commission does not have jurisdiction over the issuance of revenue bonds, when that revenue bond has been presented to the Commission as part of a rate case that is properly under the jurisdiction of the Commission.

46. It appears that bond counsel is of the opinion that because a municipality has the authority to issue revenue bonds the Commission has no jurisdiction to approve or deny the issuance of a specific bond or determine what requirements are to be included in that bond issue. If the Commission is vested with jurisdiction to regulate the utility rates then all matters pertaining to the utility operations impacting rates are proper considerations of the Commission. If a proposed revenue bond issue is presented for rate consideration in a Commission docket then all matters pertaining to that bond issue are subject to Commission jurisdiction and modification.

47. The Commission initially considered reducing the City water utility's revenue requirement to reflect the fact that the Series 1982 bonds exceeded, by \$200,000, the amount authorized for issuance by the Commission. After examining the explanation received regarding the issuance of additional bonds, the Commission finds that the City issued the bonds in good faith based upon advice of counsel and was not intentionally flaunting the terms and conditions of this Commission's order. However, the Commission would caution the City that failure to comply with all terms and conditions outlined in a Commission order, is a violation of the law and future violations could result in the imposition of penalties against the utility.

CONCLUSIONS OF LAW

1. The Montana Public Service Commission properly exercises jurisdiction over the parties and subject matter in this

proceeding. Title 69, Chapters 3 and 7, MCA.

2. The Montana Public Service Commission has afforded all interested parties in this proceeding proper notice and an opportunity to participate. Section 69-3-303, MCA, Title 2, Chapter 4, MCA.
3. The rates approved herein are reasonable, just and proper. Section 69-3-201, MCA.

ORDER

The City of Bozeman shall file tariffs consistent with the Findings of herein.

3. The rates approved herein shall not become effective until the tariffs and necessary calculations supporting the tariffs have been submitted and approved by the Commission.
4. A full, true, and correct copy of this order shall be sent to the Applicant and all other appearances herein.

DONE IN OPEN SESSION at Helena, Montana, this 18th day of February, 1986, by a 5-0 vote.

BY ORDER OF THE MONTANA PUBLIC SERVICE COMMISSION

CLYDE JARVIS, Chairman

HOWARD L. ELLIS, Commissioner

TOM MONAHAN, Commissioner

DANNY OBERG, Commissioner

JOHN B. DRISCOLL, Commissioner

ATTEST:

Ann Purcell, Acting Secretary

Trenna Scoffield Secretary
(SEAL)

NOTE: Any interested party may request the Commission to reconsider this decision. A motion to reconsider must be filed within ten (10) days. See 38.2.4806, ARM.